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ABSTRACT

During the growth of Reading Recovery in the United States, a growing body of research has accumulated. This publication seeks to clarify for teachers, administrators, parents, and policy makers the many facets and characteristics of this early intervention program in literacy. The first section, "A Review of Reading Recovery," presents a brief description of the program, and provides explanations of program goals, teacher training and ongoing development, the research basis for the program, data collection and reporting procedures, the two positive outcomes of the intervention, and the importance of well-planned implementation. The second section, "Responses to Some Common Misconceptions," addresses 6 issues that are frequently misunderstood or misinterpreted. The third section, "Review of Research and Evaluation Related to Reading Recovery," presents both internal and independent studies that have reviewed or have investigated the program with regard to effectiveness and subsequent gains. The fourth section reviews and responds to program challenges that have appeared in both academic and general publications, while the fifth section invites stakeholders to collaborate on a shared goal--to work together to provide literacy opportunities for all children. (Contains 90 notes and approximately 150 references). (NKA)

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ED 434 320

READING RECOVERY REVIEW

UNDERSTANDINGS OUTCOMES & IMPLICATIONS

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Documented by 20 years of research and evaluation, Reading Recovery

- *Provides a one-to-one tutoring program for first graders who are having extreme difficulty learning to read and write.*
- *Provides an intensive, year-long teacher education program that involves analysis of behavior and teaching for expert decision making.*
- *Provides ongoing professional development for teachers.*
- *Provides intervention at a critical time -- before the cycle of failure begins.*
- *Provides a safety net for low achieving children as a supplement to a good classroom program.*
- *Provides short term intervention -- 12 to 20 weeks.*
- *Provides 30 minutes daily of extra instruction.*
- *Provides reading, writing, and attention to letters, sounds, and words.*
- *Provides children the chance to become independent readers and writers.*
- *Provides an opportunity for accelerated progress.*
- *Provides lessons in either English or Spanish, depending on the language of instruction in the classroom.*

Reading Recovery demonstrates that the world can be different.

Typically, low achieving children are expected to make slow progress year after year, maintaining low achieving status throughout the grades. Reading Recovery demonstrates that with a different use of resources, the path of progress can be altered for most of these children.

"When investing in Reading Recovery, the system has taken out an insurance policy to protect against future failure. If serving the lowest-achieving children, the program can provide increased assurance that grades 2 and above will have few, if any, nonreaders. The amount of investment depends on how much protection the system needs and/or wants."[1]

READING RECOVERY REVIEW

Understandings Outcomes & Implications

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A Guide to the Contents

INTRODUCTION TO PUBLICATION 1

SECTION 1: A REVIEW OF READING RECOVERY 2

- Introduction to Reading Recovery 2
- The Goal of Reading Recovery 3
- An Investment in the Professional Skills of Teachers 4
- The Research Base for Reading Recovery 5
- Collecting and Reporting Reading Recovery Data 7
  - Measures Used in Reading Recovery 9
  - Discontinuing Procedures 11
  - Counting Every Child 12
- Two Positive Outcomes of Reading Recovery 12
- Implementation Factors Affecting Reading Recovery Success 13
- Issues of Trademark and Royalty Free License 15

SECTION 2: RESPONSES TO SOME COMMON MISCONCEPTIONS 17

- Clarification 1: Reading Recovery is not aligned with any classroom approach 17
- Clarification 2: Reading Recovery teachers DO teach children about letters, sounds, and words 17
- Clarification 3: Reading Recovery is not a classroom program and is not a program for groups 18
- Clarification 4: The design of Reading Recovery calls for service to the lowest achieving children 18
- Clarification 5: Children are not arbitrarily 'dropped' from Reading Recovery service 19
- Clarification 6: Reading Recovery continues to expand (Table 1) 20

SECTION 3: REVIEW OF RESEARCH AND EVALUATION RELATED TO READING RECOVERY 21

Summaries of Reading Recovery Reviews (Table 2) 22
Data Across 13 Years in the United States (Table 3) 24
Comments about Program Effectiveness 25
Summaries of Reading Recovery Studies (Table 4) 26
Continued Progress After the Intervention 32
Considerations When Reviewing or Conducting Reading Recovery Research 34

SECTION 4: RESPONSES TO MAJOR CHALLENGES TO READING RECOVERY 35

Challenge # 1: Is Reading Recovery expensive? 35
Challenge # 2: Does Reading Recovery raise the average level of cohort performance? 39
Challenge # 3: Does Reading Recovery change the structure of schools? 40
Challenge # 4: Is Reading Recovery training too intense? 41
Challenge # 5: Does Reading Recovery preserve the status quo by protecting the structure of schooling? 42

SECTION 5: A COLLABORATIVE MISSION: LITERACY OPPORTUNITIES FOR ALL CHILDREN 44

ENDNOTES 46

REFERENCES 50

INTRODUCTION TO PUBLICATION

The growth of Reading Recovery in the United States has been remarkable, and the expansion continues. A growing body of research has accumulated. Hundreds of articles have been published or disseminated. Reading Recovery stakeholders -- teachers, administrators, parents, legislators and other policy makers -- are asking for explanations and clarifications of the many facets and characteristics of this early intervention program in literacy. In an attempt to respond to these requests, we are offering this document.

In the first section, *A Review of Reading Recovery*, we present a brief description of the program. Explanations are then provided about (a) program goals, (b) teacher training and ongoing development, (c) the research basis for the program, (d) data collection and reporting procedures, (e) the two positive outcomes of the intervention, and (f) the importance of well-planned implementation. A final section addresses issues of program integrity.

In section two, *Responses to Some Common Misconceptions*, we address issues that are frequently misunderstood or misinterpreted. Specific issues include (a) the relationship of Reading Recovery to classroom practice, (b) the inclusion of specific instruction related to letter-sound relationships and the alphabetic principle, (c) distinctions between Reading Recovery and classroom and group programs, (d) selection of children for service, (e) completion of 'full' programs, and (f) the continued expansion of Reading Recovery in the United States.

In section three, *Review of Research and Evaluation Related to Reading Recovery*, we present both internal and independent studies that have reviewed or investigated the program with regard to effectiveness and subsequent gains. In addition, we examine 13 years of replication data in the United States.

In section four, *Responses to Major Challenges*, we review and respond to program challenges that have appeared in both academic and general publications. These include challenges related to (a) cost effectiveness, (b) impact on an age cohort, (c) changing the structure of schools, (d) rigor of the teacher training, and (e) educational priorities.

In section five, we conclude with a final invitation to stakeholders to collaborate on a shared goal -- to work together to provide literacy opportunities for *all* children.

Section 1

A REVIEW OF READING RECOVERY

Reading Recovery is an early intervention program designed to assist the lowest achieving children in first grade who are having difficulty learning to read and write. Children meet individually with a specially trained teacher for 30 minutes each day for an average of 12 - 20 weeks. The goal is for the children to develop effective reading and writing strategies. During this relatively short-term intervention, these children make faster than average progress so that they can catch up with their peers and continue to work on their own within an average group setting in the regular classroom.

Reading Recovery is also available to children whose initial reading instruction is in Spanish. Descubriendo La Lectura (DLL), or Reading Recovery in Spanish, is now well established in a number of sites across the United States. Information within this publication applies to Descubriendo La Lectura as well as to Reading Recovery.

The key to the successful implementation of the program resides in the training model. The two-tiered process begins with an intensive series of post-masters graduate level courses for teacher leaders at a university training center recognized by the North American Trainers Group. The teacher leader training model involves (a) a study of the program procedures that includes working daily with students across the course of a year, (b) an in-depth study of the theoretical foundations upon which the procedures are based; (c) comprehensive study of seminal and recent theories and research focusing on the reading and writing processes; (d) training in the process of working with adult learners; and (e) training in management and administrative services required to successfully implement the program. Following successful completion of the training year, teacher leaders return to their school districts to train teachers who will work with the lowest-achieving first-grade readers.

Training at the second tier, or teacher training, is also a year-long commitment. Teachers enroll in a graduate level course taught by a certified teacher leader. Through clinical and peer-critiquing experiences, teachers learn to observe and describe student and teacher behaviors and develop skills in making moment-to-moment decisions to inform instruction.

The research-based professional development courses for teachers and teacher leaders focus on analyzing children's reading and writing behaviors and relating those behaviors to more general theories of literacy and learning. Teachers-in-training and teacher leaders-in-training build theoretical models of literacy learning that they use to guide their work with children. Through on-going required professional development classes, Reading Recovery teachers and teacher leaders continue to refine and further develop their skills to effectively teach children who are

"at risk" of failing to learn how to read and write.

Reading Recovery is an effective safety net within a comprehensive approach to solving education problems. No classroom program in the first grade will be adequate for all children. Each educational system has two problems to solve: (a) how to deliver good first instruction in literacy and (b) what kind of supplementary opportunity should be provided for children who are low achieving even in a good instructional program. Acting as a safety net within a good instructional literacy program, Reading Recovery can be part of a strong, comprehensive approach to bring all students to literacy.

Reading Recovery provides a window of opportunity for the lowest achieving children to accomplish the goal of literacy for all children. In this section, we discuss seven important realities that policy makers, administrators, and all educators need to know about Reading Recovery in order to accomplish this goal.

Reading Recovery has one clear goal: "...to dramatically reduce the number of learners who have extreme difficulty with literacy learning and the cost of these learners to educational systems."[1]

Reading Recovery has one clear goal: "...to dramatically reduce the number of learners who have extreme difficulty with literacy learning and the cost of these learners to educational systems."[1]

Training for Reading Recovery professionals on three levels...

TEACHERS	TEACHER LEADERS	TRAINERS
• enables teachers in apprenticeship for one year to learn to design a series of lessons tailored to the specific needs of an individual child and to make effective, moment-by-moment decisions. • supports effective teaching of the hardest-to-teach children. • provides a way for teachers to continue to study and learn and consult teacher leaders about children whose learning is puzzling.	• provides for expert professionals called teacher leaders to train and support Reading Recovery teachers; advise on all aspects of delivery of the program in a school, a district, or a consortium of districts; and create understanding at all levels of the potential and limits of Reading Recovery. • creates teacher leaders who carry out local training programs, support a local implementation of quality, and guide the instruction of the most difficult children.	• provides a third level of leadership of university-based professors as trainers who prepare the teacher leaders at university centers, advise about new developments, and provide guidance on issues that may facilitate or impede the delivery of effective programs. • creates and maintains a trainer network that actively guides all Reading Recovery programs through any necessary adaptations and adjustments to the program that may need to occur over time as knowledge and society change.

The training for Reading Recovery professionals acknowledges that at each level of training the roles of professionals, as well as their use of theory, are different.[2]

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Reading Recovery is an investment in the professional skills of teachers.

Reading Recovery addresses the needs of a particular group of students -- those first graders who score lowest on measures of achievement in reading and writing. It helps the majority of those children work successfully in the classroom program. It is not designed to raise the overall achievement of an age cohort but rather to reduce the numbers of children who are having extreme difficulty. It cannot guarantee progress in spite of unsatisfactory subsequent teaching, nor is it intended to be a model for changing classroom instruction.

2 ***Reading Recovery is an investment in the professional skills of teachers.***

> If we can focus our energies on providing this generation of teachers with the kinds of knowledge and skills they need to help students succeed, we will have made an enormous contribution to America's future.[3]

A recent large-scale study revealed that every additional dollar spent on raising teacher quality netted greater student achievement gains than did any other use of school resources.[4] Few educational programs offer a more powerful teacher education process than Reading Recovery with a full academic year of intensive training.

The training of Reading Recovery teachers is provided by specially trained Reading Recovery teacher leaders who have been prepared in a year-long residential program at a recognized university training center. Teachers also train for an academic year while they work with children and fulfill other professional responsibilities. In the United States, graduate-level university credit is awarded for successful completion of the Reading Recovery teacher training program. Training continues after the initial year, with a built-in renewal system to update teachers on new ways to be effective in their work.

Reading Recovery training sessions involve extensive use of a one-way glass screen through which teachers watch each other work with children as they put their observations and analyses into words. In their conversations, they articulate their questions and dilemmas. The process challenges assumptions about children's learning, teachers think critically about the art of teaching. They "need to become more flexible and tentative, to observe constantly and alter their assumptions in line with what they record as children work. They need to challenge their own thinking continually."[5]

Reading Recovery teachers learn to make teaching decisions "on the run" while teaching. Research on Reading Recovery teaching[6] indicates that Reading Recovery teachers seem to know "just what to do" in response to individual children. No time is wasted because the teacher is working

from what the child knows and finding powerful examples that will help these initially struggling learners make leaps in learning.

The key is extensive, rigorous training that allows the teacher to develop a repertoire of actions and decisions and then to adjust each child's program to help make the most of her or his knowledge base and strengths. Clay[10] cites educator Pearson's comments about the implications of teacher education in Reading Recovery:

> Reading Recovery has managed to operationalize that vague notion that teachers ought to reflect on their own practice. That behind the glass play by play analysis and the collegial debriefing with the teacher after her teaching session represent some of the best teacher education I have witnessed in my 28 year history in the field.

A body of research[11] indicates that Reading Recovery teacher training has a powerful and long lasting impact on the teachers who participate. The skills and knowledge teachers develop in Reading Recovery contribute to their ongoing learning and result in an impact on children across time. There is at least anecdotal evidence that these learnings also influence their work in other settings.

There is also evidence that the communication between Reading Recovery teachers and classroom teachers supports literacy teaching in a school. In a change study,[12] classroom teachers cited the benefits of collaborating about individual children with a knowledgeable colleague. The investment in the professional skills of Reading Recovery teachers, then, appears to go beyond their work with individual children.

3 *Reading Recovery is a research-based approach to helping children who are the lowest achievers.*

Reading Recovery has a strong research base. The structure and design of the program are consistent with a large body of substantial research on how children learn to read and write. In addition, empirical studies have been conducted on the outcomes of the program itself.

- **Reading Recovery is based on the best of current knowledge about how children become literate.**

Reading Recovery has its roots in Marie Clay's studies of young children's reading and writing behaviors in the 1960s.[13] Clay's basic research in classrooms and clinics, along with intensive studies in other disciplines, became available in the United States through academic publications in the 1970s. Clay also designed and tested observation techniques that have been

3

Reading Recovery is a research-based approach to helping children who are the lowest achievers.

widely used by classroom teachers and researchers. These instruments comprise *An Observation Survey of Early Literacy Achievement*.[7]

Clay's observation instruments are useful for classroom teachers, reading teachers, evaluators, and researchers because of their sound measurement qualities. All of the tasks were developed in research studies. They have the qualities of sound assessment instruments checked for reliability, validity, and discrimination indices. This work has led to research by others in the United States,[8] Australia, and England.[9] A unique feature of Reading Recovery is that every teacher, every day, records the detail of every lesson with every child. Similar teacher observations provide sound research data for inspection and analysis of the changes that occur as individuals work through their series of lessons.

A second research program was undertaken by Clay to explore this question: "What is possible when we change the design and delivery of traditional education for the children that teachers find hard to teach?"[10] A number of studies explored this question, beginning with the development project in 1976 and followed by field trials, follow-up studies, replication studies, analyses of lesson content, monitoring studies, and subgroup studies.[11] The Ministry of Education has monitored the New Zealand program nationally since 1984.[12]

Therefore, Reading Recovery is built on a foundation of more than 30 years of research about how young low-achieving children take on the process of reading and writing. Because Reading Recovery is a dynamic program, it has changed in response to growth in understandings about how children learn to read and write while remaining grounded in a sound, well developed theory. For example, teaching for phonemic awareness and visual analysis were significant aspects of the program from its beginning. Differences in subsequent editions of the published materials for Reading Recovery training[13] continue to reveal refinements in the procedures as more research information becomes available.

Change in Reading Recovery is a deliberate, careful, ongoing process based on continuous research. Over the years, refinements in practice have been based on current research in language and literacy learning and teaching as well as on research and evaluation directly related to the program.

Changes in Reading Recovery practice are gradually assimilated through required, ongoing professional development at all levels of training. The implementation of programs and training courses for professionals are constantly under scrutiny, with studies designed to test different models of delivery. Because of the dynamic nature of the underlying theory and its responsiveness to new knowledge arising in related disciplines, as well as the

ongoing evaluation of student outcomes and training schemes, elements of Reading Recovery are revised when appropriate

As knowledge changes around us, Reading Recovery professionals must continue to ask what new discussions of theory and research are relevant for a preventative approach to early intervention. One important example which supports that approach was provided by Vellutino and his colleagues.[11] By comparing the cognitive abilities and experiential deficits of children who were easy and difficult to remediate, they were able to recommend that

> ...to render a diagnosis of specific reading disability in the absence of early and labor-intensive remedial reading that has been tailored to a child's individual learning needs is, at best, a hazardous and dubious enterprise...[11]

Reading Recovery professionals have contributed to the advance of understanding by their contributions to research projects as diverse as applying Vygotskyan theory to early literacy instruction (Hobsbaum, Peters, & Sylva on tutoring early writing)[11] and school improvement (Hill, Rowe, & Crevola on providing a safety net for children with difficulties in a thrust to provide improved classroom instruction).[11]

- **Research on Reading Recovery is ongoing.**

In the United States and other countries, researchers continue to examine different questions and to design and conduct studies that inform the teaching and implementation of Reading Recovery.[12] For example, U.S. researchers have implemented empirical studies that compare Reading Recovery with other approaches, as well as qualitative studies probing aspects of teaching, learning, and implementation. Notable studies are included in Section 3 and in the list of references.

4 ***Reading Recovery teacher leaders and administrators at every site systematically collect and report data on every child to a central national evaluation center.***

"Replication is important in all sciences because it is through replication that scientists verify research results."[76] Reading Recovery replicates its effect at the level of individual subjects, and the same results are achieved again and again with different children, different teachers, and in different places. Altogether, if a result is seen consistently across time and across locations, we can predict with some confidence that the results will occur. Hiebert, who was critical of initial Reading Recovery research and evaluation studies, has stated that "...a high percentage of Reading Recovery tutees can orally read at least a first-grade text at the end of Grade 1... Once a pro-

4

Reading Recovery teacher leaders and administrators at every site systematically collect and report data on every child to a central national evaluation center.

gram is in place, there appears to be considerable fidelity in the results."[17]

Unique to Reading Recovery, evaluation data are collected on the implementation of the program for every child. By the end of the 1996-1997 school year, data had been reported to the National Data Evaluation Center (NDEC) for Reading Recovery as well as to the U.S. Department of Education on 436,249 children. The more replications a program can document, the more reliable the results, and the more confidence researchers have in the procedures and interventions that produced those results.[18]

General procedures for data collection:

1. In consultation with classroom teachers, the Reading Recovery teacher identifies individual students who need a check on performance, administers six assessments, and selects the lowest children.
2. The Reading Recovery teacher fills out a computer scan form with vital data on each child and entry scores.
3. The Reading Recovery teacher provides daily lessons to each child selected.
4. As children exit the program, the Reading Recovery teacher records exit scores on the scan form.
5. As new children enter the program, each child's entry data are recorded on a new scan form.
6. At the end of the first grade year, all children are again tested and their scores recorded on scan forms.
7. A separate scan form is completed to report contextual variables for the Reading Recovery site.
8. Scan forms are checked by district officials and sent to the National Data Evaluation Center (NDEC) for Reading Recovery. Scan forms report the end-of-year status of each child (for example, whether service was successfully discontinued because the child met performance criteria).
9. Data are analyzed and aggregated at the National Data Evaluation Center for Reading Recovery.
10. Results are sent back to each site so that local reports may incorporate the information into their local decision making.
11. Each site reports local data to local officials, to university training centers, and to appropriate school officials and policy decision makers.
12. A national report is prepared and published annually.[19]

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At every step of the process, data are checked and verified.

- **Measures used in Reading Recovery**

Measures used in *An Observation Survey of Early Literacy Achievement*[10] and the Spanish version *Instrumento de Observación de Logros de la Lecto-Escritura Inicial*[11] are used by classroom teachers and Reading Recovery teachers to inform their teaching. These measures provide a reliable and valid way to assess young children's literacy knowledge and to detect evidence of progress in the early stages of literacy learning.

The Survey is comprised of six literacy tasks with established validity and reliability (see *An Observation Survey of Early Literacy Achievement*). The neutral observer records exactly what a child does on each reading or writing task with appropriate coding categories. The survey tasks have four characteristics in common with good measurement instruments. They provide

- a standard task
- a standard way of administering the task
- ways of knowing when we can rely on observations and make reliable comparisons
- a task that is like a "real world" task, relating to what the child is likely to do in the classroom (establishing validity).

An Observation Survey of Early Literacy Achievement

Measures in *An Observation Survey of Early Literacy Achievement* are listed below, with information on reliability provided in Endnotes. Measures in Spanish vary only in the number of items for some tasks.

1. **Letter Identification**[12]
   Children are asked to identify 54 characters, the upper and lower case standard letters as well as the print form of *a* and *g*.
2. **Word Test**[13]
   Children read a list of frequently occurring words. Three alternative lists are available for testing and retesting.
3. **Concepts About Print** [14]
   The examiner reads a short book and invites children to perform a variety of tasks to find out what the child has learned about the way spoken language is put into print. Two versions are available, *Sand* and *Stones*. The test reflects important concepts to be acquired by children in the beginning stages of learning to read. As children move from nonreading to reading, changes occur in the scores on this measure.
4. **Writing Vocabulary**[15]
   Children are asked to write all of the words they can within a maximum 10-minute limit. Within guidelines for testing, examiners are permitted to prompt as needed.
5. **Hearing and Recording Sounds in Words**[16]
   The examiner reads a short sentence or two and asks the child to write the words. Children's scores represent every sound recorded accurately in this assessment of phonemic awareness and/or orthographic awareness.
6. **Text Reading**[17]
   Children are asked to read a series of increasingly more difficult texts that they have not seen before. The tester provides a minimal, scripted introduction and records reading behaviors using a running record. The texts used for Reading Recovery testing in the U.S. are not used in instruction, nor were they created for Reading Recovery. Texts were drawn from established basal systems and have, over the years, been shown to be a stable measure of reading performance. Texts represent escalating gradients of difficulty.

The criteria for a child's successful completion of a Reading Recovery program include the ability to read texts that have

- long stretches of print with few pictures.
- full pages of print without pictures.
- complex story structures that require sophisticated ways of understanding.
- complex ideas that require background knowledge to understand and interpret.
- many multisyllable words.
- new words to decode without help from illustrations.
- some vocabulary words that are unfamiliar.

The text reading measure is not an equal interval scale; that is, there are smaller differences in the beginning levels than at upper levels. For beginning readers, it is necessary to look at the reader's progress in more detail.

- **Criteria and Process for Discontinuing Service to Children**

Reading Recovery provides one-to-one instruction until a child's performance shows behavioral evidence that the extra help can be discontinued. Educators involved in the program often talk about the child being able to perform within average or above average levels in classroom literacy instruction, and that is true. In classrooms where the average text reading level is too low to support the child's continued growth, discontinuing levels will need to be higher than the average. *Therefore, there is another important criterion for discontinuing*. The child must have a self-extending system for literacy. This means that the child is able to use a variety of flexible strategies for problem solving in reading and writing text. It is expected that the child will continue to improve in reading and writing skills and will learn from reading and writing in regular classroom instruction.

Discontinuing Reading Recovery service is a carefully considered decision that is collaboratively made by the classroom teacher, the Reading Recovery teacher, and other members of a Reading Recovery team. In schools, the team typically includes the building administrator, Reading Recovery teacher, classroom teachers, and others. The team communicates

At the time of discontinuing, a systematic process is followed:

1. Through consultation between the classroom teacher and the Reading Recovery teacher, the child is recognized as performing successfully in the classroom. The child is able to read and write within expected average ranges or a little above average at that point of time in the school year.

2. A trained assessor, someone different from the Reading Recovery teacher who has been working with the child, administers the range of assessments. (Observation Survey)

3. Through consultation, the educators involved decide whether the child is independently using reading and writing processes with comprehension, rapid word solving, and fluency.

4. Reading Recovery tutoring is discontinued; data are recorded on scan forms; and the child's family members are informed.

5. The Reading Recovery teacher monitors the child's progress regularly until the educational team is assured that the child is continuing to make progress at a satisfactory rate.

5

Reading Recovery has two positive outcomes.

closely with the teacher leader, who operates across many schools.

- **Every child is counted!**

The national data set includes data on every single child who enters the program, regardless of program outcome. In the early days of data collection, Reading Recovery implementers attempted to define a "program" for a child in order to determine the effect of the treatment. If a child had instruction for only a few days or a few weeks, it was difficult to say that the program had time to work. Therefore, "program" children were defined for research purposes as children having at least 60 Reading Recovery lessons. While the status of all children served by the program has always been documented locally and sent to the National Data Evaluation Center, national reports were published related to two groups: (1) the children who discontinued from the program; and (2) children who had the opportunity for a full program (both discontinued and not discontinued).

Reporting practices have changed to more clearly describe the action taken for each child served by Reading Recovery. Status categories, beginning in the 1998-1999 school year, are as follows:

- children who successfully discontinued from the program
- children who had complete programs of 12-20 weeks (with an opportunity to participate for 20 weeks) who were recommended for assessment and consideration for longer-term assistance or other actions to support the child
- children who moved during their programs
- children remaining in the program at the end of the school year without time for completion of program

Exceptions to these categories are extremely rare and are carefully documented with a narrative explanation.

Educators involved in Reading Recovery are concerned about the number of children who have insufficient time to complete the program before the school year ends. Efforts are under way in many sites to extend the school year for these children, to increase the effectiveness and efficiency of current programs, and to consider flexible use of resources to provide more teaching time within the school year.

5 *Reading Recovery has two positive outcomes.*

The results for children in Reading Recovery can be viewed in two important ways. Both outcomes represent *actions* that benefit the child.

Positive Outcome #1: The child no longer requires extra help, and service is "discontinued."

. Discontinuing is a systematic process by which a child is determined to no longer need Reading Recovery teaching in special 30-minute sessions. The child is an independent reader and writer who needs only a good classroom literacy program to continue to make progress.

Positive Outcome #2: A recommendation is made for additional assessment. Appropriate school staff members collaborate to plan future learning opportunities for the child.

Even children who do not make the accelerated progress needed for discontinuing (they do not "catch up" with peers or meet criterion measures) make progress in Reading Recovery. Moreover, positive subsequent action is initiated to help such children keep making progress. Educators have learned much about the child through the Reading Recovery diagnostic processes and can take action to recommend future actions to support the child.

Reading Recovery evaluation data show that the large majority of children served in the program experience the first outcome; a smaller proportion are in the second category. Instead of waiting or allowing children to struggle, educators in Reading Recovery assume responsibility that something positive is going to happen for every child coming into the program. A secondary outcome of the process is that people work together to identify children who might be at risk and provide the necessary extra support at a critical time. There is recognition that *everyone* is responsible for every child.

6 ***Well-planned implementation determines the success of Reading Recovery.***

Smart administrators protect their investment by assuring a high quality implementation of Reading Recovery. Consideration must be given to the processes involved in "opening up" the existing system to accommodate and support this innovation.

Implementation factors include the following:

Shared ownership. In order to sustain an innovation, basic understandings about the purposes, rationales, and processes of the innovation must be shared. In addition to shared understandings, ownership must be felt by the stakeholders who collaborate to provide the structures for successful implementation within the system. All stakeholders must be perceived to have a responsibility for the success of each child served.

Level of coverage. Each school or system must determine the number of children needing the service. A school or system has reached full coverage or full implementation when there is sufficient Reading Recovery teacher

6

Well-planned implementation determines the success of Reading Recovery.

time to serve all children defined as needing the service in the school or in the system. Systems move to full coverage over several years. It is only at the stage of full coverage that a dramatic decrease in the number of children with literacy difficulties will be realized.

Partial implementation is a temporary condition and a period that reveals all the implementation difficulties. It is a time for persistence and a focus on individual success stories. As schools move toward full coverage, many problems disappear.

Flexible staffing plans support full implementation. Schools with a significant number of trained Reading Recovery teachers have the capacity to serve all needy children within a flexible staffing framework.

Informed administration. As with any school or system commitment, the role of the administrator is critical. In Reading Recovery, the system-level administrators and the school-level administrators must be knowledgeable and collaborative in working with all stakeholders on behalf of the children needing the intervention service.

Continuous attention to quality in training and teaching. As stated earlier, Reading Recovery is an investment in teachers and teacher training. Selection of the highest quality teacher leaders and teachers is essential for a successful program. Initial training at both levels must be strong. An important feature of Reading Recovery is the ongoing nature of training through continuing contact sessions. The quality of these sessions will also impact the success of the program.

Administrators are cautioned to refrain from stretching the roles of the Reading Recovery teacher leaders and teachers beyond their training expertise and beyond their ability to continue to perform their primary role successfully. When this happens, program results may suffer.

Sustained focus on the goal of Reading Recovery and its attainment. All stakeholders must retain the focus of Reading Recovery -- to reduce dramatically the number of children unable to work within average levels within their classrooms. There is a temptation to focus on other worthy goals that may interfere with the primary goal of supporting successful performance of children.

Examination of data to uncover and solve problems. Each school and each system involved in Reading Recovery will benefit from a careful examination of student outcomes. This exploration will document the program's effectiveness as well as identify problem areas in implementation that need to be addressed.

Implementation is important in any venture. "The failure to institutionalize an innovation and build it into the normal structures and practices of the organization underlies the disappearance of many reforms."[3] "In too many cases, where ideas deserve consideration, the processes through which they

were implemented were self-defeating."[8]

In Reading Recovery, factors related to establishing a new program in a school and district context are not ignored. Although implementation issues are still being examined and refined, a structured process exists to assist local educators in implementing a consistent, high quality program.

7 ***Reading Recovery is a not-for-profit program that involves collaboration among schools, districts, and universities.***

Reading Recovery is not an independent business venture; it is partnership between school, districts, and universities. In the United States, the name "Reading Recovery" has been a trademark and/or service mark of The Ohio State University since December 18, 1990, when action was taken to identify sites that meet the essential criteria for a Reading Recovery program.

In the educational system, true innovation is difficult to achieve. Innovations appear to come and go with little lasting impact. Any time an innovation is adopted, it inevitably means that there must be adjustments in the system. In the case of Reading Recovery, for example, educators had to provide for one-to-one teaching time and space, for a long initial training and ongoing training of teachers, for a special facility so that the observation of lessons could take place, and for the transportation of children for "live" lessons. All of these requirements meant changes in the usual way of doing things.

Most innovations fail; that is, they have no lasting effect. When innovations are introduced into a system, one of three things is likely to happen:

- Because of the difficulties involved in change, the educational innovation is adopted but is rejected before a true test is made.
- The innovation is adopted in a half-hearted way so that the characteristics that provided the benefit are "watered down" or eliminated altogether.
- The innovation is adopted but after a short time is, itself, changed so that the system is accommodated.

When one thinks of the possibilities listed above, it is easy to see why innovations vary so widely from place to place.

The trademark for Reading Recovery is not a guarantee of high quality but it does contribute to consistency of implementation across sites that are far-spread geographically and exist in many different kinds of communities. The essential characteristics of Reading Recovery implementation are clearly described in a set of standards and guidelines.

On an annual basis, programs are granted a *royalty free* license to use the name. Every district that has a

7 *Reading Recovery is a not-for-profit program that involves collaboration among schools, districts, and universities.*

Reading Recovery program is reviewed annually to determine if the district has met standards for program quality. A list of registered sites is reported annually to the U.S. Department of Education.

Reading Recovery sites are part of a network that depends on regular contact with a university training center as well as examination of the data sent annually from each site. When an emergency situation exists (such as temporary loss of personnel), educators at a site may work with the Standards and Guidelines Committee of the Reading Recovery Council of North America for a temporary waiver on a given requirement. There is an attempt to work with sites toward improving the implementation plan; however, ultimately, Reading Recovery must be provided as specified. Some site officials at this point make the decision not to comply and no longer claim to have a Reading Recovery program in the district; a small number [fewer than a dozen] have had the right to licensure removed for noncompliance.

These actions are taken so that the benefits of Reading Recovery's high quality can be provided to children and to protect districts' investment in Reading Recovery training and implementation. The reason for using the trademark and monitoring program quality is to ensure the integrity of the program.

Reading Recovery is a nonprofit program. There are strict controls that prevent individuals and commercial organizations from using the name Reading Recovery to promote a program that does not comply with Standards and Guidelines of the Reading Recovery Council of North America."

RESPONSES TO SOME COMMON MISCONCEPTIONS

In today's debates over literacy and schooling, claims and counter claims are aired, often without regard for accuracy. "Expert" opinion offers a bewildering maze for educators to negotiate. Here, we clarify several issues that have caused confusions about Reading Recovery.

Reading Recovery is not aligned with any classroom approach. #1

Designed to offer extra help, Reading Recovery procedures are based on research about how children learn to read and write. The procedures represent highly effective approaches that Reading Recovery teachers use in response to the *individual* child's needs.

Reading Recovery provides additional one-to-one support for children who need more intensive teaching for strategic processing behaviors than any classroom approach can provide. The strategies learned by Reading Recovery children are helpful during reading regardless of the instructional method used in the classroom. Therefore, Reading Recovery is effective in any school regardless of the approach used in the classroom, provided that approach is well taught.

Reading Recovery teachers DO teach children about letters, sounds, and words.[42] #2

Reading Recovery teachers give specific and explicit attention to letters, sounds, and words, both while reading and writing extended text and as direct instruction.

In a comprehensive review of research on beginning reading instruction, Marilyn Adams, referring to Reading Recovery, acknowledged that the "importance of phonological and linguistic awareness is explicitly recognized."[41] She also stated that Reading Recovery, along with several other programs, is "designed to develop thorough appreciation of phonics."[41]

Consistent with Adams' analysis, subsequent research by Stahl, Stahl, & McKenna[42] reported that all students in the Reading Recovery group made gains in letter identification, phonemic awareness, and dictation tests, variables which were not stressed in Reading Recovery lessons, and all made significantly greater improvement in phonological processing tasks than unserved "at-risk" students. (See also Iversen & Tunmer in Table 4.)

The program encourages meaning-making and problem-solving with print. Decoding is purposeful. Children need to use connections between letters and sounds and their knowledge of how words work in order to problem solve words while maintaining meaning. Recognizing this critical aspect of reading, Reading Recovery professionals understand:

Clarification #1

Reading Recovery is not aligned with any classroom approach.

Clarification #2

Reading Recovery teachers DO teach children about letters, sounds, and words.[42]

- Phonemic awareness and its importance in beginning reading and writing.
- The alphabetic principle and orthographic knowledge and their importance in beginning reading and writing.
- The child's need to:
  - hear phonemes in words
  - associate letters with sounds
  - recognize and use spelling patterns
  - apply this knowledge in reading
  - apply this knowledge in writing
  - expand this knowledge to all the purposes for which it can be used in all levels of literacy processing.

Clarification #3

Reading Recovery is not a classroom program and is not a program for groups.

#3 ***Reading Recovery is not a classroom program and is not a program for groups.***

Misconceptions are revealed through comments such as "Reading Recovery in the classroom" or "Reading Recovery in groups." **Neither is possible.**

Reading Recovery is not an approach that can be generalized to classrooms or small group teaching. Rather, it is a program in which the teacher works from the individual child's knowledge and responses in a one-to-one setting. When children are taught in a group, the teacher has to choose a compromise path, a next move for "the group." To get results with the lowest achievers the teacher must work with the particular (and very limited) response repertoire of a particular child using what he knows as the context within which to introduce him to novel things." To prevent literacy problems, individual teaching for some children is needed."

Classroom teaching calls for a comprehensive approach, including a wide range of literacy-related activities with whole groups, small groups, and individuals in a variety of subject areas. Reading Recovery is a specific approach to prevent literacy problems and is targeted to a limited number of learners within a classroom program." Reading Recovery provides supplementary instruction which is not intended to supplant the literacy program of the classroom.

Clarification #4

The design of Reading Recovery calls for service to the lowest achieving children.

#4 ***The design of Reading Recovery calls for service to the lowest achieving children.***

There are at least two rationales for taking only the lowest achieving children in Reading Recovery. First, at entry to the program, the rate and level of progress cannot be reliably predicted for any child. Therefore, the most extreme cases are selected and the program serves as a period of diagnostic teaching. Second, if the lowest

achievers are not selected, the school will never clear the children with literacy difficulties from its rolls, and these children will return to haunt the program in subsequent years.[9] Any system or school not serving the lowest children is out of compliance with the standards and principles underlying Reading Recovery implementation.

Children in first grade who are receiving regular classroom instruction and who are not receiving another literacy intervention are eligible for Reading Recovery services. These children include those involved in a range of special services including ESL and special education.[10] For example, national data indicate that about 10% of those served are identified as ESL.

5 *Children are not arbitrarily "dropped" from Reading Recovery service.*

Critics have argued that children are dropped from the Reading Recovery program in early lessons because of predicted failure. The design of the program calls for a full program with an opportunity for up to 20 weeks for all children. When an exception is made, it is usually because of a report a specialist has made with alternative recommendations. These decisions are made at the school level and involve the school team and the site's teacher leader. Any school or school system arbitrarily removing children from Reading Recovery service is out of compliance with national standards and principles underlying program implementation.

Clarification #5

Children are not arbitrarily "dropped" from Reading Recovery service.

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Reading Recovery continues to expand.

Information from the National Data Evaluation Center (NDEC) shows continued expansion of Reading Recovery in the United States. As indicated in Table 1, Reading Recovery's growth in most categories approximated 10% from one school year to another.

Clarification #6

Reading Recovery continues to expand.

Table 1

Program Growth in the United States from the 1995-1996 Academic Year to the 1996-1997 Academic Year

Categories	1995-1996	1996-1997	% Increase
Teacher Leaders	625	667	7%
Teachers	14,153	15,843	12%
Districts	2,939	3,241	10%
Schools	9,062	9,815	8%

Data as of 11/15/97

In the fall of 1997, the number of teacher leaders-in-training was 17% higher than in the previous year. Teacher leaders are the key personnel in preparing Reading Recovery teachers. Therefore, the addition of these 133 teacher leaders-in-training will further extend the opportunities for expansion in subsequent years.

REVIEW OF RESEARCH AND EVALUATION RELATED TO READING RECOVERY

A number of studies have explored the effectiveness of the Reading Recovery intervention as well as the lasting effects of the program for the children served. In addition, other factors that may influence program outcomes have been studied. In this section, information is provided through (a) summaries of published reviews of Reading Recovery, (b) a report on replication data across 13 years of program implementation, (c) summaries of studies that have explored Reading Recovery's effectiveness, and (d) a discussion about subsequent performance of Reading Recovery children. The section ends with suggestions to consider when reading or conducting Reading Recovery research or evaluation studies.

• Published Reviews

Several published reviews of Reading Recovery that include information about outcomes measures are available. Five are cited in Table 2 (page 22). Responses to some of the critical aspects of these reviews are included in Section 4 of this document.

• First-Year Outcomes Are Compelling: 13 Years of Data

As reported in Section 1, Reading Recovery replicates its effect at the level of individual subjects. Evaluation data are collected annually on each child served in the Reading Recovery program. Results from the National Data Evaluation Center are compelling.

As reported by Lyons,[51] Reading Recovery has used 2 types of replication methodology to determine program effectiveness: systematic replication and simultaneous replication. Repeatedly producing the same results with different students across different settings increases confidence in an intervention, providing substantial evidence of the effectiveness of Reading Recovery tutoring. As shown in Table 3 (page 24), results across 13 years of data collection demonstrate the consistency of Reading Recovery outcomes across extensive replication documentation.

The national evaluation data can be considered in two ways:

1. From 1985 to 1997, a total of 436,249 children entered the program. This total included children who moved during their programs and children who had insufficient time to complete programs before the end of the year. For this total group (who were initially the lowest achieving), 60% met the criteria for discontinuing.

2. Reading Recovery served a total of 436,249 children from 1985 to 1997. Of that group, 313,848 had enough time to experience a complete program. Of the children with complete programs, 81% reached criteria for release or successful discontinuing from the program.

Table 2

Summary of Reading Recovery Reviews

SOURCE	PURPOSE	SCOPE OF REVIEW
Preventing Early Reading Failure with One-to-One Tutoring: A Review of Five Programs. Wasik & Slavin (1993) *Reading Research Quarterly, 28 (3),* pp. 179-200.	To consider the effectiveness of 5 tutorial programs from 2 perspectives: empirical and pragmatic	The authors reviewed quantitative and qualitative research on five tutoring programs: Reading Recovery, Success for All, Prevention of Learning Disabilities, Wallach Tutoring Program, and Programmed Tutorial Reading.
Reading Recovery in the United States: What Difference Does It Make to an Age Cohort? Hiebert (1994) *Educational Researcher, 23 (9),* pp. 15-25.	To review and examine available data on RR's effectiveness in American contexts, specifically as it influences an age cohort	The author examined 3 types of data on RR: (1) the longitudinal study in Columbus, Ohio (DeFord, Pinnell, Lyons, Place, 1990); (2) the comparison study of early interventions (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994); (3) Regional training center reports from Ohio State University, University of Illinois, and Texas Woman's University.
Reading Recovery: An Independent Evaluation of the Effects of an Early Instructional Intervention for "At Risk" Learners. Shanahan & Barr (1995) *Reading Research Quarterly, 30,* pp. 958-996.	To analyze the effectiveness of RR in 4 dimensions: 1 RR students' gains relative to gains of average- and low-achieving students 2 Maintenance of learning gains after special instruction has ended 3 Cost and benefits of the program 4 RR's influence on other instructional changes in schools	The goal of the authors was to offer a thorough, systematic analysis of all available empirical work on RR. They reviewed all published evaluations of RR, and any available unpublished ones that included sufficient basic information to allow meaningful analysis. When possible to analyze data in a more precise and direct manner, data were combined across studies. Overall, consideration of existing research and evaluation studies was largely qualitative.
Ten Promising Programs for Educating *All* Children: Evidence of Impact. Herman & Stringfield (1997). Arlington, VA: Educational Research Service	To report information collected in a three-year study conducted by the Johns Hopkins University Center for the Social Organization of Schools designed to answer 2 questions: (1) Are there specific programs or restructuring designs that can enhance the learning of students who are at risk of school failure? (2) What are their key characteristics and what local conditions and action are required to replicate those promising programs?	Authors examined 10 different nationally known programs that were identified as holding promise for educating disadvantaged children. They reviewed 13 studies of RR effectiveness and collected observational evidence at exemplar sites.
*Reading Recovery: A Summary of Research Pinnell (1997) Research on Teaching Literacy Through the Communicative and Visual Arts, Flood, Heath, & Lopp (Eds.). A Project of the International Reading Association, pp. 638-654.	To summarize what is known about RR and what has been learned through research connected with the program	The author briefly describes RR and then reviews research on program success, on teaching and learning, on teacher development, and on program implementation. Where they are available, sound critical reviews are noted.

*Indicates that author is directly involved with Reading Recovery.

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CONCLUSIONS AND RECOMMENDATIONS	COMMENTS
General Conclusions Across Programs: 1. Programs with the most comprehensive models of reading (the most complete instructional interventions) have larger impact than programs addressing only a few components of the reading process. RR and Success for All include several reading components. 2. Using tutors is not enough. The content of the program and the instructional delivery may be important variables. 3. Using certified teachers obtains substantially larger impact than using paraprofessionals. Conclusions About RR: 1. RR brings the learning of many of the lowest achieving students up to average-achieving peers. 2. Effects of RR are impressive at the end of implementation year and effects are maintained for at least 2 years. 3. Results on evaluations of lasting effects are positive but complex. 4. Only RR has attempted to assess implementation and its effect on outcome data.	Authors raised some methodological issues about RR research and about students served. They concluded that the rapidly expanding use of RR throughout the US shows that the program is practical to use.
1. A high percentage of RR children can orally read at least first grade text at the end of grade 1. 2. Once a program is in place, there is considerable fidelity in the results. 3. Prominent elements of the RR program are identified as characteristics of successful beginning reading instruction. 4. Weekly training sessions give teachers an unprecedented amount of guided observation of students. 5. Data reviewed led the author to conclude that the effects of RR on an age cohort are unconvincing. 6. When cost figures are calculated on the basis of success levels of remaining students at grade 4, the cost per successful student is higher. 7. The author recommended studies with more comprehensive tasks that fully define the sample. She also called for exploration of effects in low-income schools and with second-language children. It was further recommended that the underlying principles of RR should be explored with consideration to applicability in student-teacher contexts other than tutoring.	The author stated that data on many aspects of RR implementation are inaccessible or incomplete. She cited limitations of existing data. A response to Hiebert's review was published in the *Educational Researcher, 25 (7)*, pp. 23-25 (Pinnell, Lyons, & Jones 1996). Hiebert's response to the response was printed on pp. 26-28 in the same publication.
1. RR brings the learning of many of the lowest achieving students up to average-achieving peers. 2. RR is a robust program in terms of consequences for student learning and replicability across sites. 3. RR has become a significant force in shaping the way we view early literacy development. 4. After savings from lower retention rates and special education services, per pupil annual expenditure is approximately $3,200 to $4,000, with variation among districts due to teacher salaries and benefits. 5. More research is needed on RR's impact on students' classroom experiences and ways to reduce costs. 6. More rigorous research on the effects of RR is needed as well as studies related to program refinements to enhance learning or efficiency.	This review provided perhaps the most comprehensive independent evaluation of RR up to the time of publication. Authors cited both caveats and challenges for consideration related to research and to practice. Authors of a statewide study by Pinnell, Lyons, DeFord, Bryk, & Seltzer (1994) responded to Shanahan and Barr's claim that half the data from that study had been lost. Pinnell explained in a letter to the editor of *RRQ, Vol. 32 (1)*, 1997, p. 114, that only 5 of the 40 schools were excluded and provided the rationale. Shanahan and Barr responded to Pinnell in the same publication.
1. Expectations for RR are high, in part because the program focuses on a small number of children. The program has a reputation for producing strong, quantifiable reading gains. 2. A potential problem noted in some sites was tendency to blame or label the child when the strategy was not effective for the student. 3. Districts should be prepared to address some unintended consequences of the program including staff jealousies over resources, lack of coordination, and unrealistically high expectations for the program. 4. The consistently high fidelity of program implementation across sites was an important aspect of RR. 5. The high-quality staff development model for RR is one of the most important aspects of RR.	Authors commended the staff development model: "The intensity and the methods utilized by RR in training and the insistence on high level of RR performance provided an almost singularly attractive model for future staff development efforts, regardless of program type. As schools systematize and create more opportunities for serious staff development, the thoroughness of the RR model seems to be well worth emulating." (p. 86)
The review of research on program effectiveness includes studies from New Zealand, empirical studies in the U.S., replication studies, results in diverse settings, impact of contextual factors, and studies from Descubriendo La Lectura/Reading Recovery in Spanish. The review of research on teaching and learning includes areas such as studies of teacher behavior and student outcomes, teacher-student interactions, and the impact of RR on teacher learning. A brief review of limited implementation studies is also included.	

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Table 3
U.S. Reading Recovery children served, program children and percentage of program children discontinued from 1984-1997

Year	Served[2]	Program[3]	Discontinued[4]	%
1984-1985[1]	110	55	37	67%
1985-1986	230	136	99	73%
1986-1987	2048	1336	1059	79%
1987-1988	3649	2648	2269	86%
1988-1989	4772	3609	2994	83%
1989-1990	7778	5840	4888	84%
1990-1991	12605	9283	8126	88%
1991-1992	21821	16026	13499	84%
1992-1993	36443	26582	22109	83%
1993-1994	56077	40493	33243	82%
1994-1995	81220	57712	46637	81%
1995-1996	99617	71193	59266	83%
1996-1997	109,879	78935	65551	83%
Totals	**436,249**	**313,848**	**259,777**	**81%**

[1]Pilot year: RR teachers were in training.
[2]Served: Program children and children who entered Reading Recovery but did not receive a minimum of 60 lessons because they moved, were absent for extended periods of time, or the school year ended prior to completion of lessons. Column 1 is inclusive of the subcategory Program Children, column 2.
[3]Program: RR children who received a minimum of 60 lessons or were discontinued prior to receiving 60 lessons. **This definition of program children changed beginning in the 1998-1999 school year.**
[4]Discontinued: RR children who were released from the RR program reading within average band reading levels of the class.

Data on children served by Descubriendo La Lectura (DLL), or Reading Recovery in Spanish, are also impressive. During the 1996-1997 school year, 2,951 children were served in 50 sites across 9 states. Of the total group of 2,951, including children who moved or had insufficient

time to complete the program before the school year ended, 58% met the criteria for discontinuing. Of the 1,952 children with an opportunity for a complete program, 81% were successfully discontinued.

Stakeholders, then, have substantive information about Reading Recovery program outcomes to use in decision making. ***What other widely-disseminated programs can produce 13 years of data on every child served in the program to document results?***

- ***Summaries of Studies***

The summary of studies in Table 4 includes information about initial program outcomes as well as subsequent performance of children served. Some of the studies also compare the effectiveness of Reading Recovery with other interventions or modifications. Following the table is a discussion of subsequent performance of Reading Recovery children.

Because of its record of high quality training, program integrity, and results, prominent scholars who are not connected with the program have commented on its effectiveness. Here are sample comments:

- "These criticisms aside, the effects of Reading Recovery are impressive at the end of the implementation year and the effects are maintained for at least 2 years."[32] (Wasik & Slavin)

- "The program does incorporate several key features of a successful redesign process. It has shaped its methods according to the results of its own and other's research. It has tested and honed its techniques through years of trials and refinements."[33] (Wilson & Daviss)

- "Evidence firmly supports the conclusion that Reading Recovery does bring the learning of many children up to that of their average-achieving peers. Thus, in answer to the question 'Does Reading Recovery work?' we must respond in the affirmative."[34] (Shanahan & Barr)

- "No other remedial program has ever come close to achieving the results demonstrated by Reading Recovery."[35] (Cunningham & Allington)

- Another important outcome of the study was that it showed that Reading Recovery can be a highly effective intervention program.[36] (Iversen & Tunmer)

Table 4

Review of Reading Recovery Studies

STUDY/SOURCE	PURPOSE	SAMPLE
*Reading Recovery Pinnell, (1989) *Elementary School Journal, 90 (2),* pp. 159-181. Report of a study by Pinnell, Lyons, & DeFord	(1) To explore whether RR could succeed with low-achieving children and (2) to determine whether those children maintained their gains (Summary of pilot year data and first full year data in Columbus, Ohio)	First year study: Lowest achieving first grade children were randomly assigned either to RR or to a control group served daily in individual lessons taught by a trained paraprofessional. Both groups were compared with a random sample of average and high progress first graders (n=102) as an indication of average progress.
*Comparing Instructional Models for the Literacy Education of High-Risk First Graders Pinnell, Lyons, DeFord, Bryk, & Seltzer (1995) *Reading Research Quarterly, 29 (1),* pp. 8-39.	To examine the effectiveness of RR as compared to three other instructional models for early intervention	Lowest achieving first grade readers (N=324) were randomly assigned, within schools, to RR, a RR-like intervention with partially trained teachers, another skills-based individual intervention, group instruction by a RR teacher, or a control group.
Factors Affecting Progress in Reading: Key Findings from a Longitudinal Study Rowe (1995) *Literacy, Teaching and Learning, 1 (2),* pp. 57-110.	To provide information over a four-year period about factors affecting students' literacy development, with a particular focus on reading achievement, and to identify key factors affecting that development	The sample included 5,092 students and 256 classes in 92 schools. The longitudinal design involved repeated measures nested within classes/schools and repeated measures on schools. The second design involved cross sections of students nested within schools that were changing over time.
An Evaluation of Reading Recovery. Center, Wheldall, Freeman, Outhred, & McNaught (1995) *Reading Research Quarterly, 30, (2),* pp. 240-263.	To evaluate the effectiveness of RR in primary schools in New South Wales	Low achieving children were randomly assigned to two groups: (1) RR (n=31) and (2) control (n=39), low progress students who had not entered RR by Nov. (3) A third group (n=39) consisted of students from 5 matched schools. By the end of the study sample sizes were (1) 23; (2) 16; (3) 32.
Phonological Processing Skills and the RR Program. Iversen & Tunmer (1992) *Journal of Educational Psychology, 85 (1),* pp. 112-126.	To determine whether the RR program would be more effective if systematic instruction in phonological recoding skills were incorporated into the program. Three groups were compared: (1) children taught by teachers who received RR training; (2) children taught by teacher who received RR training that included phonological recoding skills as part of lesson; (3) children who received standard intervention.	Three matched groups of 32 at-risk readers each were formed: standard RR, modified RR, and standard intervention.
Early Intervention in Children with Reading Difficulties. An Evaluation of Reading Recovery and a Phonological Training. Sylva & Hurry (1995) *Literacy, Teaching and Learning, 2 (2),* pp. 49-68.	To evaluate the effectiveness of 2 different interventions (RR and Phonological Training)	Almost 400 children from 7 English level authorities; diverse sample with inner-city over-represented nationally; 22 RR schools, 23 Phonological Intervention schools and 18 control schools.

*Indicates that author is directly involved with Reading Recovery.

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MEASURES	BASIC FINDINGS/CONCLUSIONS	COMMENTS
Diagnostic Survey (Clay, 1985) (all 6 tasks) Writing Sample Comprehensive Test of Basic Skills (2 subtests)	RR children performed better than control children ($p < .05$) on 7 of the 9 measures at the end of first grade. They compared well with the random sample group. In subsequent years, RR children continued to perform well on text reading. Effect sizes were reduced over the years.	This study provided early evidence in the US of RR's immediate and long-term positive effects.
Gates MacGinitie Woodcock Reading Mastery Dictation (Clay, 1993) Text Reading Level (Clay, 1993)	RR subjects performed significantly better than any other treatment and comparison groups on all measures. Essential differences were related to: • individual instruction • the lesson framework (combination of techniques) • teacher training	RR emerged as most powerful of the tested interventions at the conclusion of the experiment and at the beginning of grade 2.
Reading Achievement: Primary Reading Survey Test Test of Reading Comprehension English Profile Reading Bands	RR children benefited notably from participation. Some RR students were achieving beyond the 80th percentile level of their Non-RR peers. Lower limits of the distribution for achievement measures were higher for RR children. Gains of RR children seemed to have been sustained in Grades 5 & 6.	RR appeared to be meeting its intended purpose for those students involved.
Clay's Diagnostic Survey (1985) Burt Word Reading Test Neale Analysis of Reading Ability Passage Reading Test Waddington Diagnostic Spelling Test Phonemic Awareness Test Cloze Test Word Attack Skills Test Woodcock Reading Mastery	At short-term evaluation (15 weeks), the RR scores were superior to control students on all tests measuring reading achievement but not on 2 of 3 tests of metalinguistic skills. At medium term (30 weeks) there were no longer significant differences between RR and control children on 7 of 8 measures. However, the book level test was significantly higher for the RR group.	The authors suggested considerable caution when examining medium-term results because so few children from the original control group cohort were remaining (N = 16). Authors claimed that Clay's studies had excluded about 30% of children who were either removed or not discontinued from the program. Clay's 1979 data negate this claim. No children were dropped from her analyses. Clay responds to this claim in a letter to *RRQ, Vol. 32 (1)*, 1997, p. 114.
Diagnostic Survey (Clay, 1985) All 6 tasks Dolch Word Recognition Test (Dolch, 1939) Yopp-Singer Phoneme Segmentation Test (Yopp, 1988) Phoneme Deletion Test (Bruce, 1964) Pseudoword Decoding Task	The 2 RR treatment groups performed at very similar levels at discontinuing point. Both groups performed much better on all measures than children in the standard intervention group. Both RR groups often performed significantly better than classroom controls (especially on phonological segmentation and phoneme deletion). Results revealed that the modified RR group reached levels of performance required for discontinuing faster than the standard RR group.	Authors acknowledged that both the standard and modified RR programs included explicit instruction in phonological awareness.
British Ability Scale Word Reading Neale Analysis of Reading Clay's Diagnostic Survey (5 tasks) Assessment of Phonological Awareness British Ability Scale Spelling Background information on each child	Intervention Year: Phonological Intervention effect was more specific than RR and not as secure. Only area where PI children significantly improved compared to control group was on test of phonological awareness. RR children made significantly more progress than control group on every measure of reading. Second Year: Phonological Intervention was less effective than RR and the effects narrowed.	RR was the more powerful intervention and the more expensive. However, RR was particularly effective for socially disadvantaged children who are over-represented in special needs program. While cost of RR was more than other groups, the cost gap was narrowing and predicted to narrow further.

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Table 4 (continued)
Review of Reading Recovery Studies

STUDY/SOURCE	PURPOSE	SAMPLE
The Development of Phonological Awareness and Orthographic Processing in RR Stahl, Stahl, & McKenna (under review)	To determine whether techniques used in RR lessons promote progress in the metalinguistic areas of phonemic awareness and phonological recoding	A total of 30 at-risk first-grade students were rank ordered. The lowest achieving children (n = 11) were entered into RR; a control group of 19 subjects eligible for RR was formed.
Scaffolding in Reading Recovery Hobsbaum, Peters, & Sylva (1996) *Oxford Review of Education, 22 (1)* pp. 17-35.	To explore the writing episode in the Reading Recovery lesson for aspects of scaffolding Specific explorations: • the structure of interaction • whether interactions can be conceptualized as scaffolding procedures • whether patterns of interactions change over time	Data were drawn from a longitudinal study of 17 RR children and 7 teachers in different schools in London and the South of England.
Descubriendo La Lectura: An Early Intervention Literacy Program in Spanish Escamilla, (1994) *Literacy, Teaching and Learning, 1 (1),* pp. 57-70.	To examine whether the Descubriendo La Lectura (DLL) program achieved results with Spanish-speaking first graders equivalent to Reading Recovery programs in English	All Spanish-speaking first graders who were receiving literacy instruction in Spanish in 6 elementary schools in an urban Arizona district were subjects for the study (N = 180). Four Schools had DLL and two did not. Subjects fell into 3 groups: children served by DLL (N = 23); a control group of children needing the service and not receiving it (N = 23); and a comparison group of all remaining 134 children in the sample.
*Ohio Fourth Grade Proficiency Results for Two Cohorts of Students The Ohio State University	To determine the performance of former RR students on tests of proficiency at fourth grade	Subjects were children served by RR in 1991 (Reading Test N = 2714; Writing Test N = 2813) and in 1992 (Reading Test N = 2994; Writing Test N = 3002). Of all districts eligible for the study, 69% reported data

*Indicates that author is directly involved with Reading Recovery.

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MEASURES	BASIC FINDINGS/CONCLUSIONS	COMMENTS
Observation Survey (Clay, 1993) Letter identification Dictation Task Pseudoword test (Stahl & Stahl, 1996) Yopp-Singer Test of Phoneme Segmentation (1995)	RR students made significantly greater improvement than control group on measures of phonological processing. Discontinued RR students demonstrated strategies similar to children in the alphabetic stage by the sixteenth week of grade 1.	This study suggested that RR children acquire phonological awareness and phonological recoding within RR lessons. The inclusion of all RR participants and the utilization of measures other than Clay's responded to methodological concerns stated in other reports.
Sources of data: • Detailed field notes • Transcribed audiotapes of lessons • Writing books for each child	Researchers found that the scaffolding process does underpin teaching in the Reading Recovery intervention. They identified 3 phases within the program showing change across time: (1) teachers monitor and structure the learning within the task, (2) children independently identify their needs and teachers prompt to retrieve and make connections, and (3) children exercise increasing control over cognitive processes through the use of regulatory language. The phases indicate that the interactive framework within the writing portion of a RR lesson is a process of scaffolding learning.	This study is an example of theoretical and pedagogical investigations within the RR context. Researchers in this study contributed to the theory of why RR succeeds and how writing fits into the success story. *Distinctions were drawn between research on scaffolding within short-term experimental tasks where the goal is to solve a unique problem, and long-term, instructional contexts where the curricular goals are ever-increasing. (p.17)*
Spanish Observation Survey (fall and spring) Aprenda Reading Achievement Test (fall and spring)	At the end of grade 1, DLL children had not only caught up to the comparison group on the Spanish Observation Survey, but surpassed them. Differences were statistically significant on all tasks except text reading. DLL students also significantly outperformed the control group ($p < .05$) on all measures. On Aprenda, when standard scores were connected to percentiles, only the DLL and control groups made gains. In May, the DLL group was at the 41st percentile, the comparison group at the 31st percentile and the control group at the 28th percentile. When using average bands to determine how the 3 groups compared to the average progress of all first graders, progress of the comparison and control groups lagged statistically behind that of the DLL group. While findings were encouraging for DLL students, the study raised some concerns regarding quality of Spanish reading instruction within regular bilingual classrooms.	This study provided positive evidence for the potential of the DLL program, or Reading Recovery in Spanish. Results demonstrated that the program has a great deal of promise in assisting children who are struggling to become literate in Spanish. The author cautioned that the study was limited by sample size and encouraged additional studies. She also called for studies to explore the sustaining of initial gains across grade levels and as children transition from Spanish to English instruction. Note: Annual national data on DLL outcomes have supported Escamilla's early findings. Longitudinal studies are in progress. Published accounts of these studies are forthcoming.
Ohio Test of Fourth Grade Proficiency	For the 1991-92 cohort, 71% were at or above proficiency in reading and 75% in writing. For the 1992-93 cohort, 76% were at or above proficiency in reading and 69% in writing.	This study included *all* children served by RR, not just discontinued children.

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Table 4 (continued)

Review of Reading Recovery Studies

STUDY/SOURCE	PURPOSE	SAMPLE
*Massachusetts Follow-up Studies: Grades 2 & 3 Lesley College	To compare the subsequent achievement of former RR children with achievement of randomly selected non-RR peers	Sample included randomly selected former RR discontinued students and randomly selected non-RR children in grades 2 & 3 (3 years of data). Number of subjects in groups ranged from 74 to 220.
*A Four-Year Follow-Up Study of Reading Recovery Children in New York State: Preliminary Report. Iaggar & Simic (1996) New York University, School of Education	To determine the long-term impact of RR by determining whether children who successfully complete the program in first grade sustain their gains in reading at the end of grades 2 and 3 when compared to a grade-level random sample of their peers	Four cohorts of RR children who successfully discontinued across 4 academic years were tested at end of grade 2 and three cohorts were tested again at the end of grade 3. Data were collected on a total of 1,596 RR second graders (74% of the total who had successfully discontinued across the 4 years at participating sites) and a total of 604 third graders (58% of those discontinued in the 3 cohort years in participating sites). Randomly selected groups of grade level peers (1,236 second graders and 402 third graders) were chosen to compare progress with the RR groups.
*Texas Follow-Up Study: Grades 2, 3, 4 Texas Woman's University	To examine subsequent literacy performance of RR children and to compare their performance to a random sample of grade level peers	Sample included randomly selected discontinued RR children in 48 schools in grades 2, 3, and 4 and randomly selected children never served by RR in same schools (N ranged from 88-103 across the groups).
*Texas Longitudinal Studies A and B (Preliminary Report) Texas Woman's University	To examine subsequent literacy performance of 2 cohorts of children who participated in RR in grade 1 (through grade 4) To compare the literacy performance of these RR children with a cohort of their classroom peers	The 2 studies represent 2 cohorts of children. In Study A, 150 schools were randomly selected from 698 RR schools in Texas in the spring of 1995. Within each school, 2 children were randomly selected in 2 categories: discontinued RR children and grade-level peers not served by RR. In Study B, 50 schools were randomly selected from the more than 800 RR schools in Texas in the fall of 1995. Within each school, 12 children were selected as possible RR subjects (those placed in RR at beginning of year and the children in 'next group up' if needed to get sample to 12). Six children were randomly selected from across the first-grade population in these schools.

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30. *Indicates that author is directly involved with Reading Recovery

MEASURES	BASIC FINDINGS/CONCLUSIONS	COMMENTS
Test of Oral Text Reading Story Retelling Slosson Test of Word Recognition Dictation Task Gates MacGinitie Classroom teacher ratings	Across all 3 years, RR children compared well with random sample group on oral reading and retelling measures. RR children attained mean Gates-MacGinitie scores within average bands of achievement (non-RR group). On the Slosson and Dictation Task, RR children were not within average bands of random sample achievement in grade 2 but they were within an average band in grade 3. Class teachers perceived most children to be average on literacy behaviors.	This study supported the notion that somewhat tentative literacy performance immediately after the intervention seems to become stronger in subsequent years.
Text Reading Slosson Oral Reading Test (Sort-R)	The mean text reading levels of the 4 cohorts and total group of second graders were, in all but 1 case, slightly higher than the means of the random sample group. Mean text levels of the 3 cohorts indicate that RR students continued to progress and perform as well as their random sample classmates. RR children's mean achievement levels on the word recognition test (SORT-R) reflected 'average' or expected performance for students at the end of grade 2 and slightly higher than average performance at the end of grade 3. Almost all of the RR children scored at or above grade level on Text Reading. A large majority of RR students (69% of second graders and 72% of third graders) scored at or above level on SORT-R, practically the same as the random sample group.	Authors concluded that RR children, after becoming average or better readers in first grade, continue to learn along with their classmates and make significant progress in reading after the specialized tutoring is discontinued.
Gates MacGinitie Reading Tests (1989) Texas Assessment of Academic Skills (TAAS) in grades 3 and 4 only Test of Oral Text Reading Written Retelling Classroom teacher questionnaires	Scores on standard measures (Gates and TAAS) increased across grade levels. In grade 4, approximately 70% of former discontinued RR children had scores considered average or meeting passing criteria. There were no significant differences between the 2 groups on tests of text reading at grades 3 and 4 or on retelling measures at all levels. Classroom teachers perceived most former RR children as performing within average range on literacy tasks.	This study supported the notion that somewhat tentative literacy performance immediately after the intervention seems to become stronger in subsequent years (cross-sectional study).
Observation Survey (Clay) for fall and spring data on both groups in grade 1 Gates-MacGinitie Reading Test - for fall and spring data on both groups in grade 1 and then at end of each year of study Test of Oral Text Reading Texas Assessment of Academic Skills (TAAS) - in grades 3 and 4 Classroom teacher questionnaires	Preliminary findings across both studies indicate that oral text reading performance of RR children improves across years, matching that of random sample peers in grade 3. In both studies, RR children were generally perceived to be average by their classroom teachers. Gains on the Gates-MacGinitie were similar for both groups each year, indicating that RR children continued to progress with their peers. In grade 3, 69% of the former RR children passed the reading subtest of the Texas Assessment of Academic Skills, a robust measure of reading performance. In grade 4, 78% of the former RR children passed this measure. Responding to Shanahan and Barr's recommendation, Study B included entry data (beginning of grade 1) for both groups on the Survey and on Gates, providing evidence of dramatic differences between the 2 groups. The mean entry stanine for RR children on Gates was stanine 1; the mean for the random group was stanine 4. Gains of RR children during the intervention year far exceeded those of the random group.	Study A will be completed in 1998 and Study B in 1999 after subjects at the end of grade 4 again take the Gates, a test of oral text reading, and TAAS reading and writing tests. Classroom teachers will again complete questionnaires. Early results appear promising for the children who began first grade as the lowest-achieving in their grade cohort. Study B includes implementation data to be reported in final analyses.

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- **Reading Recovery Children Continue to Progress With Their Peers After the Intervention**

Long-term research is difficult because mobility of students means that samples unavoidably shrink. Large resources are needed to follow students. If samples shrink too much, it is unknown how well the sample represents the population. In addition, systemic factors such as subsequent instruction, implementation decisions, and individual life circumstances intervene and affect student progress.

In spite of these difficulties, there is strong evidence that the effects of Reading Recovery are long-lasting. Studies in New Zealand were first to document the lasting effects of the program for children.[47] An Australian study, not designed to look for a continuing effect on the progress of individuals involved in Reading Recovery, discovered the effect as a surprising outcome.[48] Rowe, the researcher, studied the progress made in reading by children (N = 5,000) from school entry to grade 6 in 100 schools in Victoria, Australia. By grades five and six, Rowe found that Reading Recovery students were distributed across the same score range as the general school population, and with fewer low scores.

Rowe's analysis provided evidence that Reading Recovery had "removed the tail end" of the achievement distribution. Four to five years of classroom and school influence made children who were "tail enders" no different from the normal variability. At the beginning of their years in school, they were clustered at the low range; by grades five and six, that was no longer the case.

Several follow-up studies in the United States have confirmed Rowe's finding that in later grades the scores of Reading Recovery children more closely approximated the spread of scores in the random group. For example, in one follow-up study[49], about 70 percent of the former discontinued children had scores considered to be average or meeting passing criteria on 2 standardized measures of reading comprehension by their fourth-grade year. Findings, consistent with the conclusions of Rowe as well as Shanahan and Barr,[50] show that some Reading Recovery children remain tentative in their literacy behaviors after the intervention but perform better at higher grades.

It is important to remember that in these studies the children whose initial assessments were at the tail-end of the population distribution are being compared with children whose initial assessments are assumed to represent a normal curve distribution.[51] It would not be surprising if overall performance on standardized literacy measures is lower for some former Reading Recovery children than for the general population.

School districts adopt Reading Recovery to fulfill a responsibility to teach all children. Many of these school districts conduct their own inquiries into the subsequent progress of Reading Recovery students. Most of these follow-up studies are not controlled studies with random assignment and other features of experimental research. However, the reality of school evaluation requires different rigor than experimental study. These evaluations represent solid evidence for school districts that Reading Recovery students, originally the *lowest achieving first graders*, are achieving within an average range and profiting from ongoing classroom instruction. These results are replicated in site after site.

After any early intervention some children, initially doing well, might remain vulnerable to life circumstances or poor subsequent instruction. Despite a successful early intervention, a student might remain vulnerable in many different ways. After all, one cannot expect 30 to 50 hours of instruction, no matter how intensive or accelerative, to be the only support a student has throughout 12 years of schooling.

Program quality, too, makes a difference. When programs are just getting started, there may be scanty coverage, implementation problems, or weak training; the long-term gains might not be as robust as expected. The program needs to gain strength through improved implementation and experience.

Claiming that the fading of learning gains is a persistent problem for interventions in general, Rozzelle has suggested several underlying causes, including the fact that change takes time. Complex change takes even more effort and time to achieve quality results. Rozzelle cautions schools to protect new programs during the implementation stage, to monitor student progress, and to plan for ongoing teacher training and accountability.[62]

One perspective might be to see early intervention as a first step in a series of educational experiences and interactions. We do see Reading Recovery as a first step in supporting a child, who for a variety of reasons, does not make good progress in reading and writing. Subsequent support need not be expensive and would certainly include high quality, continuing support for classroom teachers so that instruction is strong year after year, whatever the particular method or approach chosen by the school district.

> Success in the early grades does not guarantee success throughout the school years and beyond, but failure in the early grades does virtually guarantee failure in later schooling. If there is a chance to prevent the negative spiral that begins with early reading failure from the start, then it seems necessary to do so.[63]

• Considerations When Reviewing or Conducting Research on Reading Recovery

When Reading Recovery programs are being evaluated, the interpretation of the data obtained depends upon the characteristics of the implementations. The characteristics of the implementations sampled must be reported along with the characteristics of the samples of children if we are to understand the results obtained. "The essential conditions for the success of Reading Recovery in a system lie in the coherence, the resourcing and the reach of the support and quality assurance structures which are put in place for its implementation."[64]

From many available evaluations it is clear that the following factors influence the results found in evaluations: the age of the implementation, assurance that the teachers were beyond their year of training and current in their knowledge of the program, the level of implementation in the schools (i.e. what proportion of children who needed the program received a full program), whether the program was running effectively (i.e. what proportions of the children served reached one of the two positive outcomes of the program described on pages 12-13), assurance that children received daily lessons, at least descriptive comment on the quality of classroom support across the years of implementation, and the support of administrators and other stakeholders.

Readers of evaluations are advised to check original sources when reading critiques of research to verify any errors in reporting. For example, researchers in one study[65] claimed that Clay had excluded some children from her original data. Their claim was then repeated by others. However, Clay's 1979[66] publication provides documentation that no children were dropped from her samples. In another example, reviewers[67] reported that half of the data were lost in a statewide study in Ohio.[68] Responses from the investigators[69] revealed that only 5 of 40 schools were excluded for reasons approved by an outside research advisory board.

It is beyond the scope of this document to explore all the factors to be considered when conducting or reviewing research and program evaluations. However, we suggest that research and evaluation studies related to Reading Recovery should be examined with attention to their accuracy in reporting the original studies, issues relating to features of design and methodology, and possible biases and limitations of the findings. It is also important that evaluators become familiar with the complexity of the program and give due weight in evaluation to both positive outcomes.

RESPONSES TO MAJOR CHALLENGES TO READING RECOVERY

It is not surprising that Reading Recovery, with its rapid growth and increased visibility, has generated conversations at many levels. From those conversations come questions, challenges, and criticisms.

Reading Recovery professionals welcome challenges from fair-minded critics. These challenges can begin a dialogue that leads to explorations of issues and to ongoing problem solving.

Five areas have been chosen for attention in this section. These areas represent challenges that have been raised in publications designed for academics and practioners alike. Space constraints limit the scope of these responses.

#1 *Is Reading Recovery expensive?*

Costs of any prevention program are difficult to assess. Factors related to costs include

- regional cost variables that affect salaries, overhead, etc.
- level of need for the service and level of coverage provided
- quality of training of teacher leaders and teachers
- efficiency and effectiveness factors in program delivery
- acceptance of program as an integral part of the system

Most school districts expect that there will be personnel costs and costs for training and materials for every program implemented in the system, particularly programs targeted to the lowest achievers. As Levin[71] has pointed out, decision makers may have to realize that some children will cost more to educate. Many districts consider inservice training of teachers to be an ongoing responsibility of a school district and do not consider Reading Recovery training an additional expense.

> *The criticism most often made of Reading Recovery is that it is too expensive and that it requires too much teacher training. However, getting these results with the hardest-to-teach children leads us to conclude that the teacher training is providing the teachers with extraordinary insight and skills. It does cost money to hire and train Reading Recovery teachers but it also costs money to employ transitional-grade teachers (e.g., pre-first classes), resource room teachers, and remedial teachers, too. It costs money to retain children. ...When you compare the success rate of Reading Recovery with other programs that keep children for years and never get them reading on grade level, Reading Recovery is a bargain! (Cunningham and Allington)*[70]

Challenge #1

Is Reading Recovery expensive?

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There are, then, many ways to calculate costs of Reading Recovery in a system or a school. Consider the following factors when determining the costs in a local educational system or when reading any analysis about the costs of a program.

- Initial training and start-up costs should be averaged across several years.
- Initial investment in non-consumable books and materials should be averaged across several years.
- Teacher salaries should be calculated only for the portion of the day when working with Reading Recovery children.
- Costs per child should count all children for whom valuable service is provided across the year and not be limited to discontinued children.
- Costs that the district would be spending to serve these children whether or not they implemented Reading Recovery should be considered. These children would likely be in *some* program.
- Costs of long-term services needed by children not served by Reading Recovery should be considered as long-term expenses (retention, special education, Title 1 or other reading specialist service, etc.)
- *All* program benefits, including those that are not easily calculated, should be reported.

Districts generally report costs per child that range between $2,300 and $3,500. The investment reduces the number of children who need ongoing, expensive services. Because a large number of initially low achievers respond quickly and require only a short-term intervention, the resources saved can be used to support the small percentage who need longer term help. Costs, then, must be considered against savings in the costs of retention and/or special provisions for children requiring long-term specialist help.

Several school districts have calculated the relative costs of Reading Recovery versus the costs of first-grade retention, Title I remedial instruction, and special education for children classified as "learning disabled." These analyses have used district teacher salary figures to calculate both the annual and the cumulative amounts of time that a single child would be likely to spend in each of the programs.

Dyer and Binkney,[11] for example, compared Reading Recovery with three alternatives by comparing the instructional time and teacher salary costs on a per-pupil basis as reported in National Education Association Estimates of School Statistics 1990 - 91. The study revealed the following annual costs per pupil: retention = $5,208 per student; Title I placement = $943.00; special education placement = $1,651, and Reading Recovery = $2,063. When the average amount of time that one student

spends in each intervention is calculated, Reading Recovery is less expensive than first-grade retention, typical Title I, or special education services. For example, because Title I reading instruction generally continues for an average of five years, the long-term cost of a teacher's salary is $4,715 per student served, compared with $2,063 per student served in Reading Recovery. Long-term teacher salary costs associated with serving one child classified as "learning disabled" in special education (participants averaging six years in the elementary school) will be $9,906, as compared to $2,063 for Reading Recovery for that child. These figures do not take into account the additional cost of psychological tests or assessment by a school psychologist.

A cost-comparison analysis for first-grade learning disability placement, Reading Recovery, and first-grade retention was conducted in Lancaster, Ohio.[7] The study revealed that the first-grade retention rate dropped from 4.3% (76 of 1772 students) in the three years prior to implementation to 2.9 % (63 of 2123 students) four years after system-wide implementation. Using annual teacher's salary and time in program, these figures represented a cost savings of $163,020.

In the three years prior to full implementation of Reading Recovery in Lancaster, Ohio, 32 students were placed in LD classrooms at the end of grade one or during the first few months of grade two. In the three years after Reading Recovery implementation, 10 children were classified as LD. The cost of educating one LD student at the time was conservatively calculated at $9,100 across four years of service compared with the per pupil cost of $1,708 for Reading Recovery service. Considerable savings were realized after the district established Reading Recovery as a prevention program.[7]

A cost-effectiveness study of Reading Recovery was conducted in Fall River, Massachusetts.[7] During a two year period (1993-94; 1994-95), the Fall River Reading Recovery project served 186 students at an annual per pupil cost of $2,362. Added to this was the cost of additional interventions for several referred or retained children for a total implementation cost of $483,271. Using the data collected on retention, special education, and Title I placement in years prior to Reading Recovery implementation, district administrators estimated that without Reading Recovery, 50% of the Reading Recovery students who had a full program would have been referred for special education and 50% would have been referred for Title I services. Administrators also estimated that approximately 5.7% of the grade one students would have been retained. Using these figures, district administrators estimated a five-year cost of $1,746,145 if Reading Recovery had not been implemented in the district for a net savings of $1,262,874.

However, the dollar amount does not directly translate in a reduction of school department spending. It is an estimate of the resources that will not be needed for teaching basic literacy skills in the long term, thereby allowing for funds to be shifted to meet other important needs.

Similar cost savings were reported in Medford, Massachusetts.[9] Data collected over a five-year period revealed that only five of the 175 first grade students who were successfully discontinued from Reading Recovery (fewer than 3%) have been referred to special education. Prior to implementing Reading Recovery, district administrators estimated that the majority of these students would have been referred to special education.

The Massachusetts State Legislature found that between 1990 and 1995, the total enrollment in special education increased by 8.3% statewide. An examination of the relative cost of the increased enrollment in regular and special education during this five-year period revealed that expenditures per full time equivalent (FTE) enrollments in special education increased by almost $4,000, while they increased by only $305 in regular education. These figures demonstrated that in 71% of the Massachusetts districts, the expenditures for special education increased at a greater rate than expenditures for regular education. Such a trend prompted the Massachusetts State Legislature to conduct an independent investigation of the impact of Reading Recovery on retention and special education referrals in the state. As a result of this seven-month investigation, Massachusetts legislators concluded that a high degree of success in teaching low-progress children how to read and write defers children from special education and reduces the number of children retained. It is, therefore, cost effective because for every $3 invested in Reading Recovery a school system saves $5.[10]

An analysis of research on the impact of Reading Recovery on learning disability placements has prompted the International Reading Association[11] to support Reading Recovery because it is "a program that teaches children how to read and reduces the number of students who are labeled 'learning disabled' and the number of students who are placed in remedial reading programs."

There are some benefits that cannot be accurately projected in terms of dollars saved.

When you implement Reading Recovery, you get

- an understanding of the need for early assessment and intervention
- a powerful, research-based assessment system for identifying children with difficulties
- strong staff development for teachers of the lowest achieving children

- an organized approach to an intervention program
- increased capacity within each school to address and analyze problems related to reading difficulty
- a demonstration that low achieving children can learn, changing perceptions and expectations
- strong models of teaching low-achieving children
- a way to make classroom teaching more manageable by enabling children on the low end of the achievement distribution to participate in reading and writing
- a program that increases the self-esteem and self-efficacy of initially low-achieving children, because they know they are learning to read and write for themselves
- a contribution to a cohesive school program by making it possible for lower achievers to profit from classroom instruction.

When educators talk about the "costs" of Reading Recovery, they are usually concerned about *funding sources* for the "start up" and for long-term support. The most stable Reading Recovery programs are funded through the combination of a variety of funding sources, including the following:

- Local General Funds
- Title I
- Migrant Education
- Dropout Prevention
- Early Childhood Support
- Drug Prevention
- Special Education
- Professional Development
- Flexible Staffing
- Bilingual/ESL
- Alternative Education
- Funding Sources Specific to Minority Groups
- Local Assessment Funds
- Special Early Intervention Initiatives
- Foundation or Other Private Support for Training

#2 *Does Reading Recovery raise the average level of the cohort performance?*

Reading Recovery is an individual program designed to drastically reduce the number of children having difficulty in literacy learning. Reading Recovery is designed to work for a particular group of children -- those at the lowest end of the achievement distribution.

In calculating the value of Reading Recovery, one needs to look not at average school scores but at the number of children having difficulty in literacy learning. When all children receive excellent kindergarten and primary grade literacy instruction and the proportion of children who need extra help are provided with Reading Recovery tutoring, the numbers of children having difficulty in literacy learning will decrease.

Reading Recovery is not designed to raise the average level of

Challenge #2

Does Reading Recovery raise the average level of the cohort performance?

cohort performance but it can contribute to raised expectations and achievement by this individual service. Implementation of the program, for example, in a given school does not necessarily mean an increase in the mean scores. Tutoring the lowest-achieving children seldom has that effect; but it does mean an increase in the actual numbers of children at average levels and a decrease in the numbers of children who need extra help.

Challenge #3

Does Reading Recovery change the structure of schools?

#3 *Does Reading Recovery change the structure of schools?*

Some educators may view the notion of 'systemic intervention' as a means for changing the system. However, Clay[79] views systemic intervention as the processes involved in opening the system to accommodate and support the innovation. It involves problem-solving the placement of the intervention into an existing education system.

Therefore, Reading Recovery was not designed to take the place of a comprehensive school or district plan for serving the literacy needs of all children. It was designed to provide a safety net within a comprehensive literacy plan. However, many educators in the United States have discovered that Reading Recovery can become a catalyst for identifying needs for change when it is placed into an existing system.

> Those who are considering Reading Recovery can expect that involvement will provoke changes in the system. Every aspect of literacy teaching, commonly accepted practices, evaluation practices, and system of political decision making will undergo scrutiny. Teachers will start to look at children and at literacy in new ways; there will be a seemingly insatiable demand for more books for children to read, and not just from Reading Recovery teachers. There may be a feeling of disequilibrium among teachers, a demand for more information and for help in promoting more reading and writing in classrooms. Reading Recovery turns things upside down. That can be a problem. But we can also expect empowered and excited teachers who are aware of the importance of what they do and students who become readers and writers.[80]

The influence of Reading Recovery training on the thinking and practices of teachers who are trained is well documented.[81] There is at least anecdotal evidence that Reading Recovery implementation in a school also influences the practices of many classroom teachers, particularly in the areas of observation and assessment of early literacy behaviors. In many schools, there are new conversations

about the reading and writing progress of young children.

In a study of the changes in a school district following the implementation of Reading Recovery,[53] Chapter I (now called Title I) and classroom teachers reported changes in their own practices -- teaching for strategies, choosing books appropriately, assessing children, focusing on strengths, and teaching with higher expectations. Teachers and administrators reported that the district's Chapter I program had changed in the areas of program design, materials, and philosophy; student performance; staff development and communication among teachers; evaluation and assessment; teachers' and students' expectations of success; and instructional practices.

Much of the evidence of Reading Recovery's influence on systems, schools, classrooms, and teachers is anecdotal at present. A growing number of studies are exploring these factors. Perhaps the most significant influence that Reading Recovery should have on schools is related to the stated goal of the program -- to reduce the number of children unable to work at average levels in their classrooms and to do so for a high percentage of children.[54] When this goal is accomplished, the influence on the school can be tremendous and should create new and exciting conversations about literacy learning.

#4 *Is Reading Recovery teacher training too intense?*

The *Reading Teacher* published a teacher's commentary on her experience in Reading Recovery teacher training,[55] which she described as being a transmission model wherein her background knowledge was not valued and there was little opportunity for shared dialogue and reflection. Five Reading Recovery teachers from three different states responded to the commentary in the same issue of the journal with their perspectives on their own training experiences.[56] They agreed the training was intensive and rigorous, but acknowledged that, as their previous assumptions about teaching and learning were being challenged, they did not discard their old views. Rather they considered their background knowledge with new eyes. They found the demonstration lessons behind the one-way glass to be a powerful setting for learning in which there was a rich shared dialogue with the teacher leader acting as facilitator. They suggested that the change process involved in refining the teaching of the lowest achieving children is complex and challenging, but for them was a shared experience in which they drew insights from their colleagues in the training classes.

One teacher's perspective should not be discounted since it is how she perceived her training experience. There will always be varied responses to an educational experience.

Challenge #4

Is Reading Recovery teacher training too intense?

Challenge #5

Does Reading Recovery preserve the status quo by protecting the structures of schooling?

The Reading Recovery training model is based in sociocultural theory. Rogoff and colleagues[55] describe an instructional model that views learning as a community process of *transformation of participation* in which learning is a collaborative and social process wherein new understandings are jointly constructed. In Reading Recovery teacher training, then, the teacher leader/instructor

> is best characterized as a guide who fosters joint collaboration, challenges ideas, supports novice attempts, and provides greatest expertise as needed, particularly around rationales (for example, why five Reading Recovery lessons a week are key to acceleration). Students in a community-centered model take responsibility for their own learning for the joint construction of knowledge in the group (for example, during Reading Recovery teaching sessions everyone takes an active role in debating the match between teaching and the child).[57]

#5 *Does Reading Recovery preserve the status quo by protecting the structures of schooling?*

The expenditure of funds for Reading Recovery has been questioned in the light of educational priorities. This dialogue among educators and policy decision makers centers on making hard choices in a time when resources are scarce. Here we will outline two points of view.

View #1. Education is an instrument of the social culture in the United States. As such, the educational process may perpetuate the sorting of people into groups of richer and poorer Americans *or* it may become a vehicle for social change, opening opportunities for groups of people who are traditionally impoverished. The current system, instead of adjusting to the individuals, their culture and language, tends to make everyone fit the same mold and thus perpetuates the *status quo*. Placing young children into the intensive instruction provided by Reading Recovery enables them to "fit" the system, but shouldn't we really be working to change the system so that they have the time to adjust to school and to develop literacy learning more naturally? In a time of scarce resources, we should be investing in changing the system so that excellent, ongoing classroom instruction is provided to children instead of investing in "catch up" for a few.[58]

View #2. Education's role is to open opportunities for all people. Our job is to teach all children, not just some of them. Every child deserves the right to become competently literate at an early age. Because of the nature of our society and the expectations for children's progress in learning, early reading and writing skills literally

mean survival for the children of poverty. They are in a world where many of the children richer than they are have had thousands of literacy experiences long before school entry. For children who depend on school for much of their literacy learning, the school must deliver.

Young children who are inexperienced and confused about reading and writing cannot profit very much from the large and small group instruction going on in classrooms. It seems reasonable to expect that someone will sit down with such a child and "untangle the confusions" by offering skilled demonstration and support necessary for that child to become a reader and writer.

From the point of view of one child, Reading Recovery *is* a change in the system. The level of support is adjusted so that every child has a chance; individual tutoring works for children having extreme difficulty in the early stages of learning to read and it is the only thing that does work.

We must have excellent classroom teaching *and* individual help for children who need it. Choosing one over the other is like choosing between food and water. If literacy is a priority, then resources must be found for both.

It is obvious that Reading Recovery advocates would take View #2, but we recognize that the dialogue is well-intentioned. Making these decisions will depend on district priorities and understandings of the need for both good classrooms ***and*** a good safety net.

Section 5

A COLLABORATIVE MISSION: LITERACY OPPORTUNITIES FOR ALL CHILDREN

Bringing all children to literacy in the first years of schooling will not be an easy task. It will require collaboration among professional educators about good classroom teaching and about safety nets for children who need additional literacy support. Reading Recovery professionals want to work with colleagues who are acting in the interests of children.

The safety net known as Reading Recovery represents a partnership -- a concentrated, continuous, united effort in which teachers, administrators, parents, and policy makers work together to change the status of low-achieving children in literacy. In an ongoing process of educational redesign, Reading Recovery partners will continue to evaluate the program by collecting data on every child served and to analyze program strengths and make recommendations for improvement.

In his book on redesigning education, Nobel Prize-winning physicist and educational reformer Kenneth G. Wilson uses Reading Recovery as a model for the process. He comments: "Reading Recovery offers United States education its first real demonstration of the power of a process combining research, development (including ongoing teacher education), marketing, and technical support in an orchestrated system of change."[11] He suggests that in three ways, Reading Recovery can encourage the process of educational redesign.

1. It proves that a well-designed educational program can be replicated among teachers and schools across a wide array of locations and cultures and still yield uniformly superior results.
2. It indicates that investing money and effort in educational design can earn dramatic rewards -- if it's made in a properly researched and designed program that offers thorough teacher training and support.
3. It shows that when educators find a program that meets these two criteria and proves that it can earn a good result, schools are willing to make its adoption a budget priority.

Reading Recovery is the best evidence yet of the direct link between good design and educational excellence."[12]

All educators acknowledge that change is hard work. Anything that tackles the complex problems of today's literacy education is going to be difficult. It means that the educational community must work together to solve problems in a constructive way, collaborating across groups and with all stakeholders to build broad ownership in a shared goal -- literacy opportunities for all children. Reading Recovery professionals welcome the challenge to make these literacy opportunities a reality by building partnerships with all who share this goal.

End Notes

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See Clay, M.M., *Guidebook* (1993), p. 97.

See Clay, M.M., *Guidebook* (1993).

Kerslake publishes annual New Zealand results.

There have been three widely used editions of a guide describing Reading Recovery teaching procedures, all by M. Clay. *The early detection of reading difficulties* was published in 1972, with revised editions in 1979 and 1985. Those editions included guides for the Observation Survey. A revised edition of Reading Recovery training materials, entitled *Reading Recovery: A guidebook for teachers in training* appeared in 1993 in the same year as a separate volume, *An observation survey of early literacy achievement*. All were published by Heinemann Education, Auckland, New Zealand, and Portsmouth, New Hampshire.

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See Frymier, J., Barber, L., Gansreder, B., & Robertson, N. (1989), p. 228.

See Hiebert, E.H. (1994), p. 21.

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Reliability: 100 urban children aged 6.0, 0.97, split-half (Clay, 1966). Validity: Correlation with Word Reading for 100 children at 6.0, 0.85 (Clay, 1966).

Different word tests are used in New Zealand and the United States. The New Zealand test is the *Ready to Read Word Test*. In the U.S., words were drawn from a Dolch word list. Reliability: 107 urban children, Autumn, 1990, Cronbach Alpha = 0.92 (Clay, 1993).

Reliability: 40 urban children aged 5.0 to 7.0 in 1968, 0.95, KR (Clay, 1970). 56 kindergarten children in Texas 1978. Test-retest reliability coefficients 0.73-0.89, and corrected split-half coefficients 0.84-0.88 (Day & Day, 1980). Validity: Correlation with Word Reading for 100 children at 6.0, 0.79 (Clay, 1966).

Reliability: 34 urban children aged 5.6 in 1972 (Robinson, 1973), 0.97 test-retest (reported in Clay, 1993). Validity: correlation with reading, 50 urban children aged 5.6 in 1972 (Robinson, 1973), 0.82 (reported in Clay, 1993).

Reliability: Test-retest coefficients from 0.73 - 0.89 on a New Zealand population (Clay, 1985). For a U.S. population, Cronbach alphas procedure indicated reliability coefficient of .96 (Pinnell, McCarrier, & Button, 1990). Also a U.S. population, corrected split-half coefficients ranging from 0.84 - 0.88 on a U.S. population of 403 subjects (Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994). Validity: Correlation with Word Reading for 100 children at age 6.0, correlation coefficients 0.79 (Clay, 1966). For a U.S. population, Cronbach alphas procedure indicated reliability coefficient of .96 (Pinnell, McCarrier, & Button, 1990).

Reliability: For U.S. population, 402 children, person separation reliability = .83, item separation reliability = .93 utilizing the Rasch rating scale analysis by Wright & Stone (1979). The person separation reliability is equivalent to a Cronbach's alpha coefficient. (Pinnell, *et. al.*, 1994). Validity: This type of measure has proved to be a valid and reliable test of reading progress in other research (Clay, 1966, 1979; Robinson, 1973; Wade, 1978).

See Fullan, M. (1985).

See Fullan, M. & Miles, M. (1992), p. 748.

See Sarason, S.B. (1991), p. 99.

See Standards and Guidelines (1998).

A concise statement on phonological awareness and Reading Recovery may be obtained from the Reading Recovery Council of North America.

See Adams, M. (1990), p. 420.

See Adams, M. (1990), p. 421.

See Stahl, K.A.D., Stahl, S., & McKenna, M. (under review).

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[1] See Clay, M.M. (1993) *Guidebook*, p. 8.

[2] See Pinnell, G.S. (1993).

[3] See Fountas, I.C. & Pinnell, G.S. (1996).

[4] See Clay, M.M. (1994c).

[5] See Lyons, C.A. (1994a) and Lyons, C.A., & Beaver, J. (1995).

[6] See Lyons, C.A. (1998).

[7] See Wasik, B.A., & Slavin, R.E. (1993), p. 187.

[8] See Wilson, K., & Daviss, B. (1994), p. 50.

[9] See Shanahan, T., & Barr, R. (1995), p. 989.

[10] See Cunningham, P., & Allington, R. (1994), p. 254.

[11] See Iversen & Tunmer (1993), p. 123.

[12] See Clay, M.M. (1993) *Guidebook*.

[13] See Rowe, K.J. (1995).

[14] Askew, B.J., Wickstrom, C., & Frasier, D.F. (under review).

[15] See Shanahan, T., & Barr, R. (1995)

[16] Askew, B.J., Wickstrom, C., & Frasier, D.F. (under review).

[17] See Rozzelle (1996).

[18] See Slavin, R.E., Karweit, N.L., & Wasik, B.A. (1992), pp. 11-12.

[19] See Office for Standards in Education (1995), p. 162.

[20] See Center, Y., Wheldall, K., Freeman, L., Outhred, L., & McNaught, M. (1995).

[21] See Clay, M.M. (1979).

[22] See Shanahan & Barr (1995).

[23] Pinnell, G.S. (1994).

[24] See Pinnell's Letter to Editor of *Reading Research Quarterly* (1997), p. 114.

[25] See Cunningham, P., & Allington, R.L. (1994), p. 255.

[26] See Levin, H. (1989).

[27] See Dyer, P., & Binkney, R. (1995).

[28] See Lyons, C.A., & Beaver, J. (1995).

[29] See Lyons, C.A., & Beaver, J. (1995).

[30] See Condon, M., & Assad, S. (1996).

[31] See Moriarty, D. (1996).

[32] See Moriarty, D. (1997).

[33] See publication "Learning Disabilities..." from the International Reading Association (1995).

[34] See Clay, M. (1987, 1990).

[35] See Lyons, C.A., Pinnell, G.S., & DeFord, D. (1993) p. 19.

[36] See Shanahan, T., & Barr, R. (1995).

[37] See Blackburn, D.J. (1995).

[38] See Clay, M.M. (1994). Report on implementation visit, North Carolina.

[39] See Barnes, B.L., (1996-1997).

[47] See Browne, A., Fitts, M., McLaughlin, B., NcNamara, M.J., & Williams, I. (1996-1997).

[48] See Rogoff, B., Matusov, E., White, C. (1996).

[49] See Moore, P. (1997).

[50] See Dudley-Marling, C., & Murphy, S. (1997).

[51] See Wilson, K., & Daviss, B. (1994), p. 76.

[52] See Wilson, K., & Daviss, B. (1994), p. 76.

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